

**METHOD OF ANALYZING mRNA SPLICE VARIANTS****ABSTRACT**

A method for determining the exons present in a potentially variantly spliced mRNA is carried out by: (a) providing a potentially variantly spliced mRNA; (b) providing an array, the array comprising a plurality of different primers immobilized on a solid support at distinct locations thereon, with each of the plurality of different primers selectively hybridizing to a corresponding one of the plurality of exons potentially within the mRNA; (c) contacting the mRNA to the array that a duplex is formed between each different primer and each corresponding exon if the corresponding exon is included in the mRNA; (d) subjecting the duplexes to a primer extension reaction so that the primers in the duplexes are extended with at least one labeled base; and then (e) detecting the presence or absence of the at least one labeled base in each of the plurality of primers, the presence of the at least one labeled base indicating the presence of the exon to which the primer selectively binds in the potentially variantly spliced mRNA. Apparatus and arrays for carrying out the invention are also disclosed